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### REMARKS

The claims have been amended to more clearly define the hollow cup-shaped metallic cylinder which is a critical part of the claimed construction.

Before discussing the amendments and the prior art and the manner in which the amendments more clearly distinguish Applicants' invention from the prior art, it is appropriate to review the objective of the invention. The objective of the invention is to provide a hydraulic tensioner which can be manufactured and assembled at less cost than the conventional tensioner and yet which is fully effective in operation and use. Applicants discovered that by providing a hollow cup-shaped metallic cylinder which houses the plunger for sliding movement to form a pressure chamber which is enlarged and reduced by the extension and retraction of the plunger, the body of the tensioner may be made of a plastic, and the body does not need the precision necessary to provide a pressure chamber. As discussed in the application, the cup-shaped metallic cylinder has a clearance with the cylindrical hole of the body and the cylinder is retained in the body by the very same compression spring which urges the outer end of the plunger to protrude from the body. To achieve the pressure-tight pressure oil chamber, Applicants found that the cup-shaped hollow metallic cylinder should have a bottom plate with a through-hole which is operable to introduce pressure fluid into the chamber and which cooperates with a check valve to limit the discharge of pressure fluid from the chamber. In order to provide a seat for the compression spring which is effective to anchor the hollow cylinder in the body, the through-hole is centered within the bottom plate and the compression spring bears against the bottom plate in the area between the cylinder wall and the through-hole.

Preferably, the check valve for the through-hole is a sub-assembly which is mounted adjacent the through-hole and supported by the cup-shaped cylinder so that it is retained in place by the same compression spring which maintains the cup-shaped cylinder within the cylindrical hole of the body.

By providing a separate hollow cup-shaped cylinder surrounding the plunger, Applicants are enabled to provide a ratchet assembly with a pawl pivotally mounted on the body and having teeth engaging the plunger through a cut-out in the hollow cup-shaped cylinder. The pivot shaft for the pawl may pass through ears on either side of the cut-out to provide a further anchor for the cup-shaped cylinder within the cylindrical hole of the body. This invention enables the hydraulic tensioner to be manufactured with either a die-cast

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body or a molded synthetic resin body since the plunger is slidable in the metallic hollow cylinder.

The art cited by the Examiner does not teach or suggest the novel structures of the present invention which permit the savings in manufacturing and assembly cost. The German patent '607 cited by the Examiner does not disclose a cup-shaped hollow cylinder which is retained in the tensioner body by a compression spring, as embodied in Applicants' invention. The tensioner in Fig. 3 of the German reference discloses a cylinder 2 and a separate bottom plate. The cylinder 2 of the German patent and the bottom element 5 are independent members, as shown in Fig. 3, and as described on lines 22-44 of the German specification. The compression spring 7 of the structure does not bear against the tube but, rather, bears against the bottom plate which is fitted within the interior of the lips at the inner end of the tube. There is no suggestion that the tube and the bottom plate of the German patent should be joined or combined as a one-piece structure, and the spring which bears against the bottom plate does not therefore retain a cup-shaped hollow cylinder within the body as is achieved by Applicants' invention. The German specification refers to the mounting of the non-return valve 6 in the bottom plate and there is no suggestion that the bottom plate 5 should be joined with the tube 2. The fabrication of the tube and bottom component as a one-piece cup-shaped hollow cylinder is neither suggested nor disclosed by the German reference.

The Examiner rejected claim 6 as unpatentable over the German reference in view of the European Patent '460. While the European patent does disclose a combination of a ratchet mechanism, the European patent does not supply the deficiencies of the primary reference of German Patent '607. Thus, the addition of the European patent to the German patent does not teach or suggest the one-piece cup-shaped hollow cylinder which is a significant element of Applicants' invention.

Claim 1 has been amended to define Applicants' invention in terms which distinguishes it from the disclosures of the cited references. Specifically, the amendments recite that the hollow cylinder has a hollow cylindrical wall and a bottom plate formed as one piece with said wall. The claim furthermore sets forth that the bottom plate and the wall have an external diameter corresponding to the diameter of the cylindrical hole. The claim furthermore requires the bottom plate to have a through-hole and the assembly includes a compression spring bearing against the outward surface of the bottom plate between the hollow cylindrical wall and the through-hole. This structural arrangement enables the

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compression spring to retain the one-piece cup-shaped hollow cylinder within the cylindrical hole of the body without worrying about the clearance between the outer wall of the cup-shaped metallic cylinder and the diameter of the cylindrical hole. All of these features combine to provide a tensioner which may be manufactured and assembled economically and efficiently. The references do not teach or suggest the structure as now set forth in Claim 1 and, accordingly, claim 1 is properly patentable to Applicants.

Claim 2 recites the structure wherein a check valve mechanism is provided in the inlet hole and is prevented from dropping out by the abutment on the inward surface of the bottom plate of the cylinder.

Claims 3, 4 and 5 define the structure wherein the check valve mechanism is mounted against the upper surface of the bottom plate and is retained by the compression spring.

Claims 6 defines the embodiment of Figs. 3-5 and are dependent upon claim 1 and include the definition of the one-piece cup-shaped cylinder which is defined in claim 1. Accordingly, claim 6 is properly patentable to Applicants.

Claims 7 and 8 define the alternative composition of the tensioner body and include all of the limitations of claim 1 and are therefore believed allowable along with claim 1.